

# Carpet:

## Waste Reduction

- Why Carpet?
- Generation, Composition, Sources
- Current Infrastructure
- National Product Stewardship Agreement
- State Roles/Opportunities

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# WHY?

## Carpet Recycling

- Bulky and Expensive
- Low Recycling Rate (1%)
- Typically Landfilled
  - Combustion: economic and technical difficulties
- Resource/Materials conservation

# Carpet Generation (1999 U.S. figures)

- 1.1% MSW weight\*
- 2% MSW volume
- 2 million TPY/4 billion lbs.
- 13 lbs./person/year
- 400 lbs./household/year

\*comparable to aluminum, steel and plastic containers

# Carpet Composition

- **Face Fiber** (type/market share)
  - Nylon – 6 and 6,6 (59.3)
  - Polypropelene (33.7)
  - PET (6.6)
  - Wool (0.4)
- **Backing**
  - Polymer (Vinyl/Latex)
- **Filler**
  - Calcium Carbonate (Limestone) and Adhesive
- **Pad** (separate or integrated)
  - Polymer

# Carpet Sources

- **Residential 75%**

- 7-10 year lifespan
- Mostly Nylon6
- 30-60% Fiber (weight)
- Mostly Broadloom
- Includes Separate Pad

- **Commercial 25%**

- 5-8 year lifespan
- Mostly Nylon6,6
- 20-30% Fiber (weight)
- Mix Tile/Broadloom
- Built-in or No Pad

# Current Collection

- Residential: Non-existent
- Commercial: Manufacturers
  - ***Constant Change***
  - Case by Case/Fee for Service:
    - DuPont: Any type
    - BASF Savant: Nylon 6
    - Collins & Aikman: Vinyl backed
  - Product purchasers/users only
    - Milliken: Reuse

# Barriers: Infrastructure

- **Collection:**

- Not in Recyclers' Domain
  - installers/retailers/demolition contractors (out first/in last)
- Start and Stop Efforts: Closure of Evergreen facility

- **Processing:**

- Material Handling
  - Bulky and Dirty
  - Difficult to sort by fiber type
- Transportation Expensive
  - Carpet processors and manufacturers in S.E. United States

- **End-Use:**

- Small number of end products

# What is Product Stewardship?





# National Product Stewardship Agreement (MOU)

- Goal:
  - To increase the value recovered from post-consumer carpet by increasing the reuse and recycling of carpet.
- Rates and Dates
- Responsibilities of Signatories
- Reporting

# MOU:

## National Rates and Dates

- By 2012:
  - Landfill Diversion ~40%
    - Recycling Rate 20-25%
    - Reuse Rate 3-5%
    - Cement Kilns 3%
    - Waste to Energy 1%
- National goals, states can exceed or not

# MOU Responsibilities: Signatories

- Signatories are committed to working together to overcome...barriers to economically recover carpet (technical, logistical and communications) and to develop a system that treats discarded carpet as a resource rather than a waste product.

# MOU Responsibilities: Carpet Industry

- Primary Financial Responsibility for MOU Outcomes
- Establish 3PO: Carpet America Recovery Effort (CARE)

# **MOU Responsibilities:**

## **CARE**

- Enhance Collection Infrastructure
- Information Resource
- Report and Measure Results
- Seek and Provide Funding
- Participate in CARE Exec- & Sub-Cmtes

# MOU Responsibilities: States

- Increase number of state signatories
- Develop and promote model EPP procurement specifications
- Provide technical and financial assistance
- Employ policy and regulatory tools

# State Follow-Up: Increase Signatories

- Status: Ongoing
- Known: Presentations
  - National:
    - Product Stewardship
    - JTR
  - Regional levels
    - Northeast
    - Midwest
    - South

# State Follow-Up: Model EPP Purchasing Specs

- **Intent**

- Provide a framework for states to build upon

- **Status**

- States and Carpet Industry Negotiated (outside MOU process)
- States moving forward, using industry feedback from MA experience (RfR for carpet, based on national)

- **Provisions**

- Recycled content and Reuse
- Collection
- Health/Envi: Indoor air quality



# Other EPP Specifications

- Separate from Model Specs.
- U.S. EPA
  - CPG IV by end of summer 2002
  - States and NGOs offered comments
- States/Other
  - MA, CA, IL (draft), WA
  - King County
  - GreenSeal

# State Follow-Up: Technical Assistance

- Promote Recycling Collection Specifications
  - State Facilities/Contracts:
    - Purchase Carpet
      - Target manufacturers, not vendors or installers
      - Model: MA RfR
    - Construction and Demolition Services
      - Target Generators and C&D companies, not installers
      - Model: DuPont, Green Building initiatives
  - Commercial and Municipal Generators (same)

# State Follow-Up: Financial Assistance

- Collection (pilot programs)
  - Municipal Grant: school renovation project
  - Commercial: credit toward purchase
- Processing/Manufacturing (grants and loans)
  - Increased \$ value of C&D related (carpet, etc.)
    - Grants from \$50K to \$150K
    - Loans from \$300K to \$500K (low interest, SBA model)
  - Provided Loans and Grants to SelecTech for product molds using discarded carpet
  - Need of: IPF at exiting recycling facility

# State Follow-Up: Policy & Regulatory Tools

- Disposal Bans
  - U.S.: Sporadic county level/private facilities
  - MA considering
- Product Stewardship
  - None known

# State Follow-Up: CARE Subcommittees

- Keep up to date:
  - Opportunities
  - Collaboration
  - Oversight

# **State Follow-Up: Low Budget Approach**

- Adopt Model EPP Specifications
- Provide Technical Assistance
- Participate in CARE Subcommittees